

# HAND

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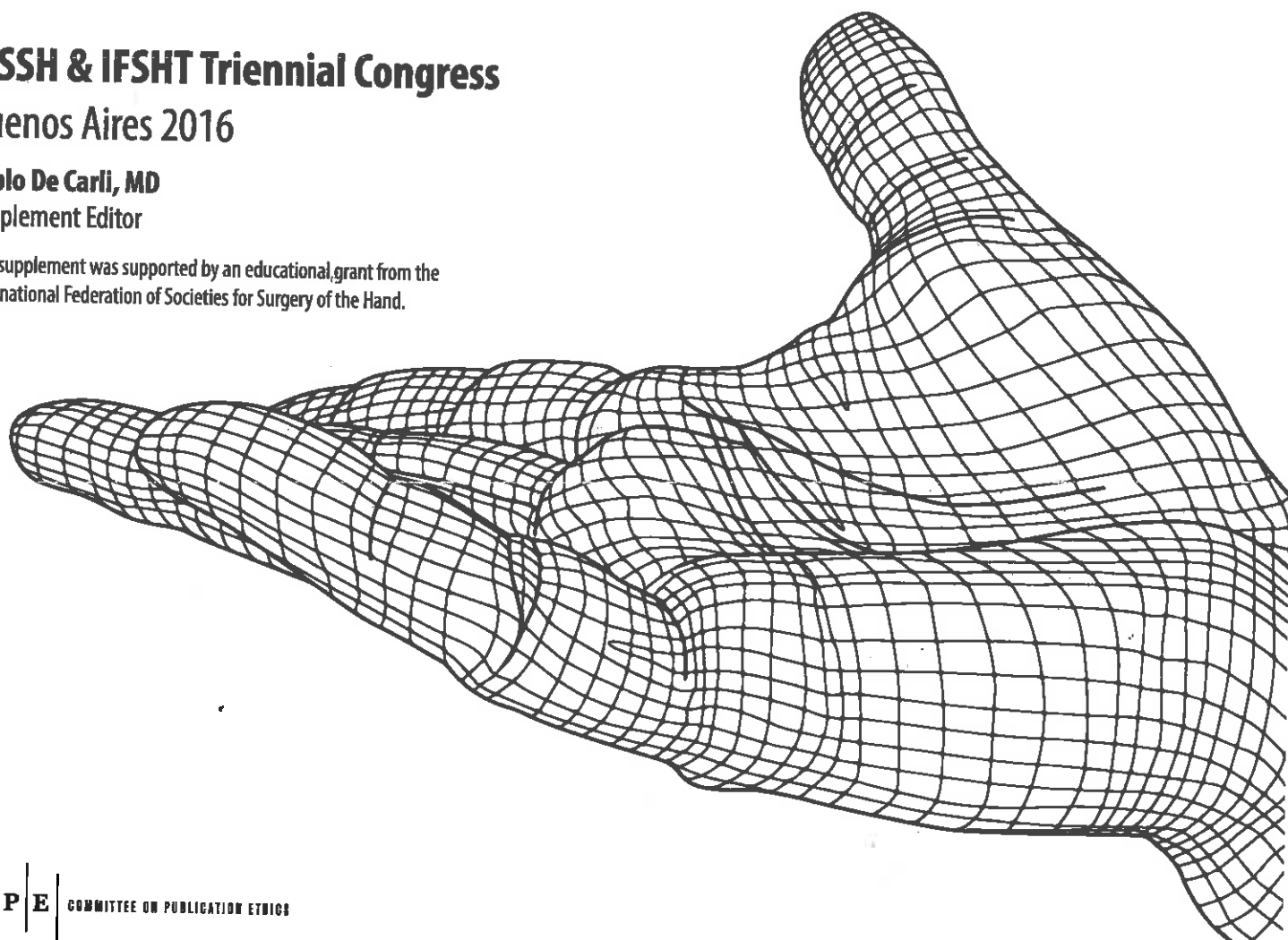
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**AACM**  
Asociación Argentina de Cirugía de la Mano  
y Reconstrucción del Miembro Superior

Official English language Journal  
of the Asociación Argentina de  
Cirugía de la Mano



Official Journal of the  
Romanian Society for  
Surgery of the Hand



**SBCM**  
Sociedade Brasileira  
de Cirurgia da Mão

Official Journal of the  
Brazilian Society of  
Hand Surgery



**Introduction:** Acute perilunate dislocations and fracture dislocations are uncommon but severe carpal injuries. Different treatment options have been recommended with a recent trend in open reduction and internal fixation. The purpose of this study is evaluate a cohort of patients who received a specific surgical treatment for acute perilunate dislocations and fracture dislocations of the carpus in the first 72 hours after trauma and with open reduction and internal fixation through isolated dorsal approach in a specialized trauma and hand surgery center, between February 2008 to February 2014. **Method:** A series of 20 perilunate dislocations and fracture dislocations was studied of which 19 were male and 1 female patient. The average age at time of injury was 32 years (20-48 years), and the upper extremity that most often committed was right (64%). The dominant hand was affected in 80% of cases. The most common mechanism of trauma was traffic accident (90%). Pure perilunate dislocations were more frequent (50%), trans-scaphoid perilunate fracture dislocation (40%) and trans-styloid perilunate fracture dislocations (10%). The average follow-up period was 39.5 months (17-72 months). **Results:** Patients were assessed subjectively with a Disabilities of the Arm, Shoulder and Hand (DASH) questionnaire, with average of 3.18 (0-10) and with a standard deviation of  $\pm 3.2$ ; and visual analogue scale (VAS) with average score of 1.5 (1-4) and with a standard deviation of  $\pm 0.81$ . Objectively results were assessed by active range of motion with flexion-extension arc averaging  $132^\circ$  with a standard deviation of  $\pm 13.6$ , average supination arc of  $154^\circ$  with a standard deviation of  $\pm 5.8$  arc, and finally radial and ulnar motion of  $39^\circ$  with a standard deviation of  $\pm 8$ . Two complications were reported in the series, the most serious related with pin tract infection, deep wound infection, and associated with scapholunate dissociation recurrent, and osteoarthritic changes that required additional surgery with proximal row carpectomy. The second complication reported with a residual hematoma in the carpal tunnel that required surgical drainage with later success. **Conclusions:** Early surgical treatment is considered as important in many studies and a determining factor in obtaining satisfactory clinical and functional results. In this study, all patients were treated timely (less than 72 hours), which we believe was determinant in obtaining excellent average results in the parameters evaluated with evidence of just 2 related complications.

### Total Distal Radioulnar Joint Arthroplasty: Mid-term Follow-up

Juan Manuel Breyer<sup>1,2</sup>, Alfonso Perez<sup>1</sup>, Pamela Vergara<sup>1</sup>, and Paula Sotelo<sup>1</sup>

<sup>1</sup>Hospital del Trabajador, Santiago, Chile

<sup>2</sup>Clinica Alemana de Santiago, Universidad del Desarrollo, Chile

**Objective:** The total distal radioulnar joint (DRUJ) arthroplasty is an alternative of treatment of patients with

symptomatic DRUJ due to advanced chondral damage, chronic ligamentous instability, and failed resection arthroplasty (Sauvé-Kapandji, Darrach, etc.). The objective of this study is to assess the outcomes of total DRUJ arthroplasty in a case-series at mid-term follow-up. **Methods:** We performed a prospective evaluation of 5 patients, mean age 43.3 years (range, 32-56), with more than 4 years (mean 6.6 years, median 6 years) after a total DRUJ prosthesis (Aptis Medical). The indication was in 3 cases due to a posttraumatic arthritis (2 chronic instability and 1 postfracture arthritis), 1 primary arthritis in an ulna minus wrist, and 1 failed symptomatic Sauvé-Kapandji. Patients were symptomatic for a mean of 47.6 months prior the DRUJ prosthesis, all had chronic pain with daily pain medication and had a median of 2 wrist surgeries previous to the prosthesis (range, 0-4). We assessed the outcomes of range of motion, pain, Disabilities of the Arm, Shoulder and Hand (DASH), and Patient Rated Wrist Evaluation (PRWE) scores at short-term and mid-term follow-up. **Results:** All patients had a significant improvement after the arthroplasty, at short-term (3-6 months) and mid-term. At the last evaluation, the mean arc of flexo-extension was  $143^\circ$  and pronosupination  $148^\circ$ . DASH score was 6.2 (range, 0-21.6) and PRWE score 17.2 (range, 0-53). Only 1 patient had mild to moderate pain, with occasional need of pain medications. Four patients required additional procedures, all of them at short-term (mean 12.3 months). One patient had an acute local infection treated with surgical debridement and implant preservation. Two patients had extensor tenosynovitis requiring tenolysis and 1 patient had excision of distal ulna calcifications. No patients have required implant removal and there have no sign of radiographic loosening. **Conclusion:** In this series of patients treated with a total DRUJ prosthesis, we observed a substantial clinical improvement, with preservation of motion, pain relief, and high functional levels, at short-term and mid-term follow-up. We consider the total DRUJ arthroplasty an excellent treatment option in selected patients with severely DRUJ damage.

### Outcome of Ulnar Shortening Osteotomy

Nadine Hollevoet<sup>1</sup>, Jonas Declercq<sup>1</sup>, Wim Vanhove<sup>1</sup>, and Szabolcs Benis<sup>1</sup>

<sup>1</sup>Department of Orthopaedic Surgery and Traumatology, Ghent University Hospital, Belgium

**Introduction:** Ulnar shortening is a treatment option for ulnar wrist pain. Most frequently, this procedure is performed for ulnocarpal impingement, but it may also be useful in patients with persistent ulnar wrist pain after a sprain. The aim of the study was to assess outcome of patients who were operated on in our hospital with a diaphyseal ulnar shortening osteotomy; to look for complications; and to find out if results were influenced by factors such as age, gender,

hand dominance, smoking, type of osteotomy (horizontal or oblique), and length of follow-up; and whether or not a trauma was involved. **Methods:** Between 2006 and 2014, 37 out of 46 patients who were operated on in our hospital were available for evaluation with a mean follow-up of 54 months (range, 7-69). Mean age at the time of surgery was 39 years (range, 15-69), 24 were women, in 19 the dominant hand was involved, 15 were smokers, and in 28 a horizontal and in 9 an oblique osteotomy was performed. In 18 a trauma was involved, and in 14 there was an associated fracture of the radius or ulna. In all patients, Disability of Arm Shoulder and Hand (DASH) questionnaire, patient rated wrist hand evaluation (PRWE), visual analogue scale (VAS) for pain, satisfaction, and complications could be assessed, and in 25 grip strength and range of motion were determined. Statistical analyses (Mann-Whitney *U* test, independent samples *t* test) were performed to find out which factors had an influence on the outcome. Multiple regression analysis was done to assess influences on the DASH score. **Results:** Mean DASH was 22 (range, 0-75) and mean PRWE score 33 (range, 0-90). Mean VAS for pain was 2.6 (range, 0-7.8). Thirty patients were satisfied and 7 would not undergo the same operation again. In 17 the plate and screws had to be removed. In 3 cases with a horizontal osteotomy, a second operation had to be performed for nonunion. Two of them were smokers. Mean grip strength was 84%, mean wrist flexion 84%, extension 75%, pronation 85%, and supination 86% of the contralateral side. PRWE and DASH scores were significantly better in smokers. PRWE was significantly worse in posttraumatic ulnocarpal impaction syndrome. Multiple regression analysis showed a significantly better DASH score in smokers, in patients operated on the non-dominant side and with a longer follow-up. **Discussion and Conclusion:** Ulnar shortening may not be able to solve ulnar wrist pain in all patients as one fifth was not satisfied. Complications should not be underestimated. Reoperations were needed in half of patients. Outcomes were better in idiopathic ulnocarpal impaction. In posttraumatic cases, ligamentous lesions may also play a role in causing ulnar wrist pain. Results were better when the follow-up was longer which may indicate that recovery after ulnar shortening may take long time or that patients may have adapted their activities. In contrast to other studies, outcome scores in the present study were better in smokers, but 2 of the 3 patients with nonunion were smokers.

### Is It Useful to Assess Both QuickDASH and PRWE Scores?

Alexandre Bodin<sup>1</sup>, Chihab Taleb<sup>2</sup>,  
Frederic Lebailly<sup>3</sup>, Philippe Liverneux<sup>1</sup>,  
and Ahmed Zemirline<sup>4</sup>

<sup>1</sup>Department of Hand Surgery, University of Strasbourg, France

<sup>2</sup>Department of Hand Surgery, Emile Muller Hospital, Mulhouse, France

<sup>3</sup>Department of Hand Surgery, Saint Paul Clinic, Fort-de-France, France

<sup>4</sup>Department of Hand Surgery, Private Hospital Saint-Gregoire, Rennes, France

**Objective/Hypothesis:** Scoring systems are widely used in medicine and surgery. During the last decade, the reduced version of the Disabilities of the Arm, Shoulder and Hand Score (QuickDASH) has established itself as the main Patient Reported Outcome Measures (PROMs) questionnaire used by hand surgeons. Another measurement tool can be used when the condition affects more precisely the wrist: the Patient-Rated Wrist Evaluation (PRWE). The aim of this study is to find out how correlated these 2 scores are. **Materials and Methods:** More than 2000 wrist clinical evaluations (including QuickDASH and PRWE), performed for any kind of condition the last 2 years, were gathered and analyzed. Spearman's rank correlation coefficient was used to compare the visual analogue scale (VAS) score for pain, QuickDASH, and PRWE values. **Results:** There is a high correlation between these 3 subjective scores. Spearman's rank correlation coefficient reaches .70 when assessing VAS and QuickDASH, .73 when assessing VAS and PRWE, and .86 when assessing PRWE and QuickDASH. **Conclusions:** With the statistical power that provides a huge sample, it is proven that QuickDASH and PRWE scores are highly correlated. Thus, we can abandon one of them to spare time without losing relevant information.

### Percutaneous Scaphoid Screw Fixation: Suggested Classification Based on Radiographic Union Predictor

Mostafa Mahmoud<sup>1</sup>, Ashraf Moharram<sup>1</sup>,  
Sherif Ban<sup>1</sup>, Ahmed El-Xeni<sup>1</sup>,  
and Abdullah Seif-Alnasr<sup>1</sup>

<sup>1</sup>School of Medicine, Kasr Al Ainy, Cairo University, Egypt

**Hypothesis:** Application of a screw to the fractured scaphoid as perpendicular to the plane of the fracture as possible is a key to proper healing. Using the previously proposed radiographic predictor of healing that uses the sum of smaller angles (SSA) of intersection between the proposed screw position and the plane of the fracture in 3 radiographs (posterior anterior [PA] in ulnar deviation, 45° pronation, and supination oblique), we suggested classifying fractures of the scaphoid into volarly accessible "V type" and dorsally accessible "D type" according to the SSA >160° and <160°, respectively. The proximal pole of the scaphoid at the dorsal apex is considered V type and proximal to it is considered D type. **Methodology:** Prospectively, we fixed the 176 scaphoid fractures percutaneously between 2005 and 2013. The proposed screw passage through the retrograde route was drawn on the 3 mentioned radiographs and the SSA was calculated. We classified 133